NAEB JOURNAL

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The Medical Profession Needs ETV
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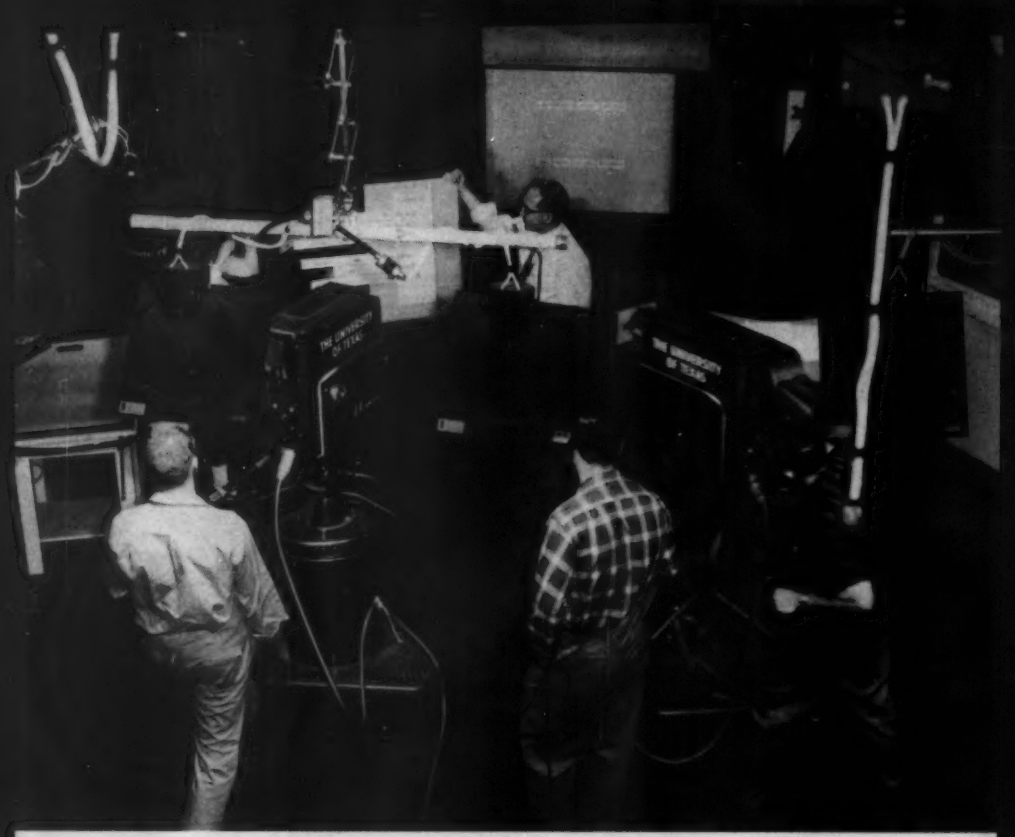
p. 21
WNYE'S
High School of the Air



Leroy R. Shaw teaches German telecourse at University of Texas. (See "Videotapes Aid German Instruction," page 15.)

On the cover: An automatic camera picks up the demonstration by a dental technician. Students watch a highly magnified picture on several monitors placed throughout the laboratory. (Story on page 27.)

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The Search for TV Teachers

The successful use of television as an instructional aid in today's schools depends, as it always has, upon the availability of skillful teachers.

Television has demonstrated that it is a powerful instrument which can be used in more than one way to aid the teaching process. It can provide enrichment, for example, and it was in this area, as it was earlier in the case of radio, that it was used initially. It still can and often does enrich the work in the classroom. However, television educators today are becoming more and more convinced that enrichment is not now its most important use.

Few classroom teachers find it possible to devote the time to the preparation for each lesson which is essential to the success of a television teacher. By means of a carefully planned demonstration, the teacher in the studio is able to provide literally thousands of students in hundreds of classrooms with a clear understanding of a principle, concept, skill, or technique in such a field as science. Using television in this way, every student viewing the lesson has better than a "front row" seat. This use constitutes direct teaching at its very best.

This use of television should be no cause for alarm on the part of the rank and file of teachers. Television used in this manner does not now—nor will it in the foreseeable future—constitute the replacement of the classroom teacher by the studio teacher. Rather, it provides each classroom with a carefully planned and superbly illustrated lesson upon which the classroom teacher begins his work with his pupils and frees him to make the necessary adjustments to individual differences which teachers, in their crowded days, and lacking television, seldom find time to accomplish.

There are many teachers, still undiscovered, who have the essential qualifications demanded by television. Locating them and getting them in front of the television camera is today's number-one priority. The teacher we are looking for must, of course, be thoroughly grounded in the subject-matter of his field. He must also be an artist, have an outgoing personality of which each viewer is unconsciously aware, and be a master of motivation who knows how to develop his lesson in terms of the interests and previous experiences of his unseen audience.

A new school year has just begun. Television, without question, will be used this year by more schools than ever before. Whether

television will be successful in the schools now and in the years ahead will depend largely upon the early identification and training in television techniques of that small group of teachers who are potential artists in the use of the medium. Principals and other members of the supervisory staffs hold the keys to the success of this search. Each can suggest the names of teachers who, in his opinion, appear to have the needed qualifications. The need is great! May the search be successful!

TRACY F. TYLER, *Editor*

Announcement

Beginning in January, 1960, the *NAEB Journal* will be issued on a bi-monthly basis, the year round. This will avoid skipping the four summer months, which has been done in the past.

Projects and Products

a column by Philip Lewis

Director, Bureau of Instruction Materials,
Board of Education, Chicago

STEREO BROADCASTING FOR AM, FM, AND TV ON SINGLE CHANNELS

During the past several years a number of experiments have been conducted in broadcasting stereo sound. Virtually all of these trials involved the use of two separate transmission channels to achieve the desired results. In some instances an AM channel and an FM channel were employed simultaneously; in other attempts FM and TV broadcasting channels were paired. These approaches were not realistic, since they required two separate channels for a single program source in an already overcrowded spectrum.

Recent developments in the field indicate the practicality of stereo broadcasting on existing single channels, and an industry-wide National Stereo Radio Committee has been proposed to coordinate research and designs that will be compatible with existing broadcast methods. In December, 1958, the Philco Corporation petitioned the Federal Communications Commission for the institution of rule making proceedings looking toward the adoption of compatible stereo transmission standards. Although the proposals made affect AM, FM, and TV, a general description of the AM modification will be given to point up the salient features. Conclusions may be drawn concerning the possibilities for the future for educational stations as well as commercial licensees.

The objectives established for the Philco research program include the following:

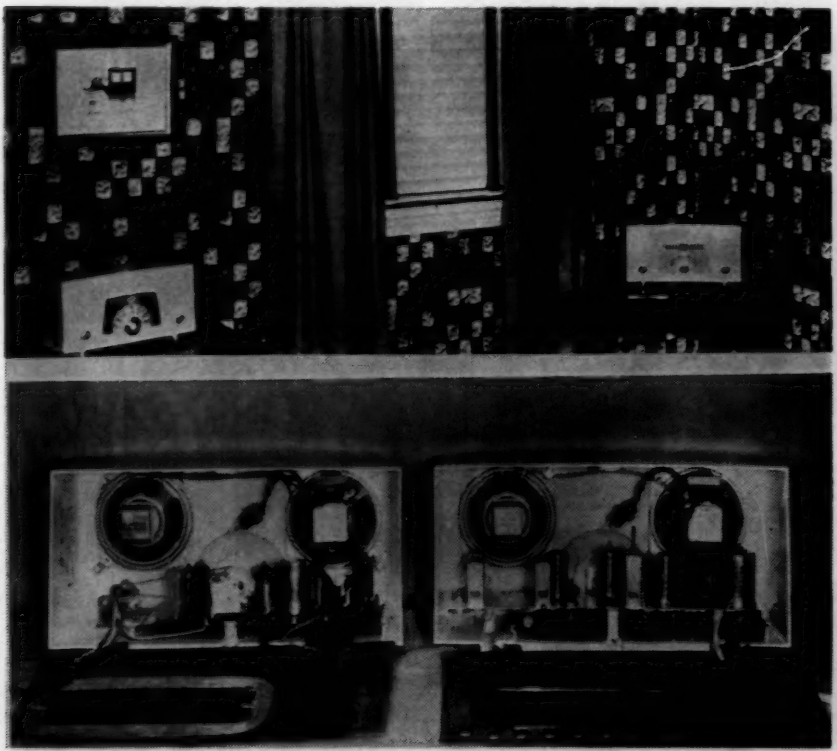
1. To develop a compatible system which would in no way degrade the existing AM broadcast service to existing monophonic receivers.
2. To develop inexpensive stereo receivers which would put them within the reach of the entire public.

AM TRANSMITTER
MULTIPLEXER

3. To develop a system which would not impose an unreasonable economic burden upon existing AM broadcast stations, should they wish to add stereo service.

In operation a two-track AM stereo signal, utilizing two different modulation patterns, is multiplexed in such a way that it can be separated at the receiving end to emanate from two separated speakers in the receiver units. The field-test receivers pictured are the front and rear views of the receiver-adapter. On one side is the table model radio with the adapter plug in the back. On the other side is the adapter unit which separates the two audio tracks. Each unit has its own audio amplifier and speaker system. A ten-foot interconnecting cable, when plugged into the radio, will give stereo reception with the sound from one track coming from each of the units. If both units are used for monaural reception, then each unit will reproduce the identical signal. The photograph of the AM stereo transmitter-multiplexer shows the equipment constructed for field-testing the signal as presented in the petition to the F. C. C.

Additional technical data on the three systems may be obtained by



writing to Mr. Robert M. Jones, Director of Public Relations, Philco Corporation, Philadelphia 34, Pennsylvania.

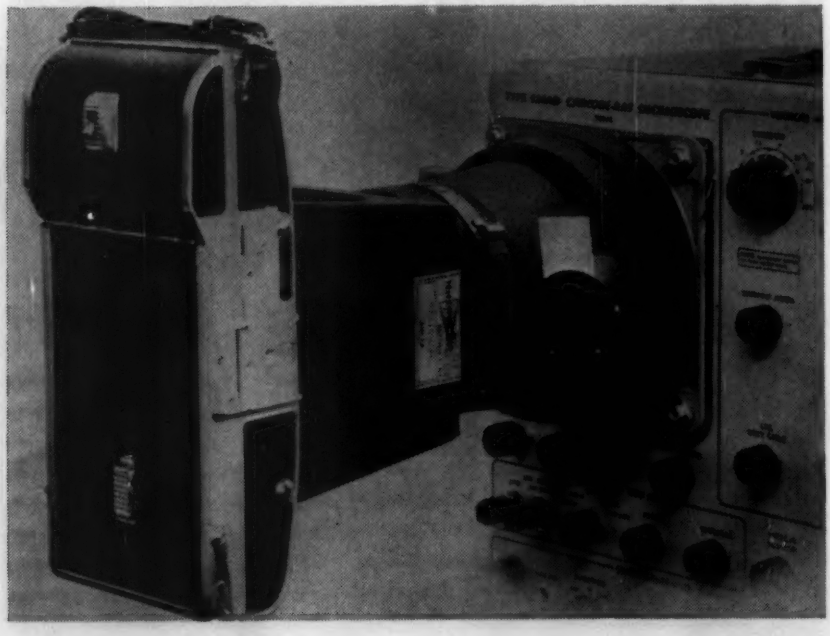
POLAROID OSCILLOSCOPE CAMERA

The imaginative combination of two well-known products now provides TV engineers and technicians with an improved and versatile tool:

1. To make possible economical, routine, oscilloscope recordings, which can be immediately evaluated without darkroom processing.
2. To facilitate the recording of single transients of an identical repetitive pattern which appears on a cathode-ray screen.
3. To make available a camera that may be successfully used to obtain clear, sharp pictures without any specific knowledge of photographic techniques.

The Model 1521-A Oscilloscope Camera consists of an assembly equipped with a high-speed lens. In addition to "time" and "bulb," shutter speeds are available from 1 second to 1/100th of a second. The focus is arranged to provided photographs with a one-to-one ratio from the actual object. A light-tight hood shields the face of the cathode-ray tube from extraneous light, but a viewing port is provided to permit observation of the traces to be recorded.

Details are available from Telechrome Manufacturing Corporation, 28 Ranick Drive, Amityville, New York.



Allocations — a Problem for Both ETV and the FCC

Would FCC control of receivers help?

Those of us engaged in the regulation of communications have many vexatious problems—and to this extent we have a common heritage with educators.

In fact we have a common *problem:* the allocation of a scarce and valuable natural resource known as the radio spectrum. I would like to discuss some of the aspects of this complex problem as it relates to television and more specifically, to educational television.

It was believed in 1952 that the television allocation problem for commercial and noncommercial television stations was solved. Not so—over half of the commercial UHF stations which went on the air have ceased operation for financial reasons. The financial reports of television stations furnished to the Commission indicate that the commercial UHF stations still operating are either barely breaking even or are losing money regularly when in competition in the same market with VHF stations. At the same time VHF stations are generally quite profitable.

By **Frederick W. Ford**

Taken from an address by FCC Commissioner Ford before the Institute for Education by Radio-Television, Columbus, Ohio, May, 1959.

Of the 401 VHF and 165 UHF stations authorized to go on the air since the 1952 Sixth Report and Order, 5 VHF and 89 UHF

stations have ceased operation. This demonstrates that under present conditions UHF and VHF are not competitive in the same market.

It is significant that although 32 of the 80 VHF assignments reserved for educational television are now on the air, only 10 of the 162 UHF assignments reserved for educational television are.

Great dissatisfaction has been expressed from many sources with the fact that only about one-fourth of the more than 2,000 possible television stations are on the air. We have been operating in an economy of television scarcity in the midst of plenty.

Two of the principal reasons for the spectacular lack of success of our present television allocations are:

1. The continued production of television sets which can receive only twelve of the eighty-two channels allocated to television, and the failure of the industry to develop a UHF receiver comparable in quality to VHF receivers.

2. The propagation characteristics of ultra high frequencies as compared with very high frequencies. Both of these factors must be overcome in some way before a reasonably satisfactory solution can be found for our television allocations problem.

It will make little difference what frequencies are assigned to television in addition to, or as a substitute for, present assignments if the public does not have receivers capable of picking up signals of stations constructed on those frequencies. In addition, if the receivers are not sufficiently dependable to give substantially the same degree of service as the present twelve-channel receivers there undoubtedly will be a repetition of the VHF-UHF receiver and intermixture problems, with the resulting economic disadvantage to the channels dependent on inferior receivers.

A reallocation of spectrum space to television in such a way as to minimize the disparity in the propagation characteristics of the lowest and highest frequencies insofar as possible would materially assist in solving the second difficulty. On the other hand a solution to the receiver problem would very likely permit the UHF channels to be fully developed.

Eliminating such possibilities as the use of closed-circuit TV for city service and the use of satellite reflectors or transponders, let us look at the alternative solutions which are being considered. I believe that basically there are four possible solutions to this allocation problem, each of which has certain variations:

1. An extended VHF plan, using some or all of the present twelve VHF channels augmented by additional channels immediately above and adjacent to Channel 13.

2. The present eighty-two channel VHF-UHF system.

3. An all-UHF system.

4. A twelve-channel VHF system.

The most desirable of these solutions is the extended VHF plan. I am told that it will require fifty VHF and contiguous UHF channels to permit the assignment of one noncommercial educational and four commercial channels to each of the first 100 markets in the United States. Using this formula, of course, many smaller communities could receive assignments of less than five channels, and others perhaps more.

An extended VHF plan would involve obtaining thirty-eight channels from the government. The armed services have developed radio equipment based on the use of these channels, and many millions of dollars have been invested. Therefore, among factors that would have to be overcome are such things as international repercussions and the time, cost, and obsolescence of equipment. A cooperative study of the possibility in this area has been started jointly by the Commission and the government.

It may not be possible to obtain the desired number of channels from the government. A much smaller number may be all that our national defense can tolerate. In that case a decision will have to be made as to whether the present allocation or an all-UHF system is preferable in the public interest.

Assuming that sufficient spectrum space in this area becomes available, it will be at least ten years before the transition can be effected. Re-establishment of defense communications in other areas and replacement of worn out receivers in the hands of the public (assuming that such receivers would be built) would take at least that long.

If an extended VHF plan (either with fifty channels or with some fewer number) is not feasible, the next alternative is the present allocation of eight-two channels, with a plan to insure that the public will eventually replace the present twelve-channel receivers with all-channel receivers. Substantially fewer than fifty channels would require some permanent relaxation of standards in order to obtain the number of assignments needed for a competitive commercial system and for educational requirements.

The third possibility — an all-UHF system—has been advanced from time to time and has received substantial support. I do not believe, however, that the Commission can move television to UHF until it has strong evidence that UHF can provide service comparable to that in VHF without requiring unwarranted outlays by the public generally. Such evidence is not yet forthcoming, although certain developments now in progress show great promise.

We are all working very hard to avoid the fourth and disastrous fate for television. That is the use of the present twelve VHF channels with such aids as boosters, satellites, short separations, directional antennas and the like. This

plan would substantially freeze the expansion of television, including educational television. In my opinion, it would finally result in less service to the public than at present.

We hope the time is not too far distant when the Commission will be able to reach a policy decision on the future allocation of spectrum space for television, based on information now being marshalled in each of the areas above.

I think this discussion makes it clear that any change—and any hope of its success—in the present allocations is inextricably linked to the problem of getting into the hands of the public receivers which will permit reception of the signal of any channel on which a television station is authorized to be constructed. You might ask why the Commission hasn't required all sets to be capable of receiving UHF signals as well as VHF signals. The answer is that the Commission has no authority over receivers other than its control over them as radiating devices. Although the Commission can prescribe standards for transmitting apparatus, it does not have such authority with respect to television receiving equipment.

Control over television receivers is especially needed in two areas. Not only must receivers in general distribution be capable of reception of programs on all TV channels, but in addition, the performance throughout their tuning ranges must be as uniformly good as the state of the art permits, consistent with the economics of manufacturing.

The most important feature pertinent to the very serious UHF-VHF problem which confronts the Commission is that control of receivers could be used as a means of making possible the full use of UHF if that is essential to the longe-range solution of our problem. The use of UHF would then be possible without the immediate prospect of plunging parts of our largest "canyon" cities into TV darkness, and would avoid the enormous practical problem which might attend an immediate dictated transfer from VHF to UHF. Control of receivers would permit and encourage the development of UHF receivers and systems to the point where should it become expedient or necessary to withdraw some channels at a later date this could be done with a minimum of disruption to established service.

I am certain that there will be those who will claim that the Commission will soon want to regulate how toasters are made. Nothing could be further from the truth. Our experience has shown that the mere allocation of frequencies to a broadcast service does not guarantee its success. It happened for a number of years in the FM band. We have seen it happen in present television allocations. It could happen again.

Consider for a moment whether the history of educational television would have been different if

each of the 162 UHF assignments reserved for educational TV could be picked up by each receiver within the service contour of stations constructed on those channels. Would there be more educational TV in the United States today?

If manufacturers had abandoned the twelve-channel receiver in favor of the all-channel receiver at the time of the Sixth Report and Order when only *seven* million receivers were in the hands of the U. S. public, the problem of the public's investment in something like *fifty* million twelve-channel television receivers would not exist.

I venture to say that the UHF portion of those sets would have been developed to a point where it would be comparable in quality to the VHF portion.

The Commission has proposed to the Congress that we be given authority to establish standards for television receivers and that receivers which do not comply with those standards be barred from shipment in interstate commerce for resale to the public. I am convinced that only in this way can any of the first three alternatives which I have discussed with you ever be transformed into a nation-wide adequate system of television in which the needs of education and the needs of commerce can be properly accommodated.

Another argument that has been used against giving the Commission such authority is that it would require the public to buy something that is not immediately useful—that is, a receiver capable of receiving either fifty or eighty-two channels when so few or no stations would be operating on the additional channels. I am told this additional cost would amount to roughly $35 or $45. I don't know how much of the cost of my present twelve-channel receiver is the result of its capability of receiving the eight channels which are not available to me.

If a modest additional cost of receivers as they need replacement (which I am told is every eight to ten years) will result in an adequate competitive television system in the United States and the healthy growth of educational television, I for one firmly believe that the public would willingly pay this extra cost.

THE UNIVERSITY
OF TEXAS

Videotapes Aid German Instruction

Closed-circuit and tapes replace weekly session at University of Texas

New developments in the technology of television have increased its potential as a teaching aid. The University of Texas, as the first university to own and operate its own videotape recorder, has been able to explore that potential as it has been put to use in the service of effective teaching.

The *Active German* closed-circuit videotapes produced by Radio/Television, The University of Texas, in the spring of 1959 serve as an example of how teaching and television got together at Texas and how videotape is adding a new dimension to educational television. The series began with some problems the Germanic languages department was having in teaching its freshman German course, German 406. This course is composed of approximately twenty-five sections of twenty-five students each, each section meeting in five 50-minute periods weekly. About twenty instructors

By **Hugh A. Greene**

TV Writer-Producer and Special Instructor, University of Texas. He was writer-director of Science Close-up, *the first university-produced videotape series in the nation. He teaches Radio and Television Acting and Television Dramatic Writing.*

are required to teach these sections; of these, only three or four are full-time faculty members; the rest are teaching assistants.

Before television, the German department devoted one of the five weekly periods to a general session in which several sections gathered to hear full-time faculty members present the grammar and basic sentences to be covered in the week's lessons. The general session was designed to serve two functions: first, it was to expose the freshman student to some of the top professors of the department; and second, it was to provide the teaching assistants with models by which they might gauge their own techniques.

Increasing university enrollments brought increasing dissatisfaction with the general session. The sessions were held by necessity in large lecture rooms, often in the older buildings on the campus which were not air-conditioned. In these rooms, student attention was often low because of poor lighting and acoustics, uncomfortable and unpleasant atmosphere, and the distractions admitted through windows left open for ventilation. Furthermore, there was neither time nor proper facilities in the general sessions for questions and answers; these had to be saved—and remembered—for the regular section meeting the following day.

Always receptive to new ideas in its quest for better teaching, the German department consulted the radio-television department. The idea that emerged from a series of conferences in the fall of 1958 was this: instead of the general session, a half-hour television program would be videotaped and sent via closed-circuit to each section of German 406 during its first meeting of the week. One professor would be assigned as the television instructor; the half-hour would introduce in capsule form the week's work based on the text. The taped programs would mean that the students could remain in their regular sections, which met in comfortable air-conditioned classrooms; that, since the television program would take up only half the period, ample time would be left for questions and answers; that, thanks to videotape, all students in German 406 would receive the same instruction from the same teacher; and finally that the teaching assistants would all see the same model under similar optimum viewing conditions.

This plan, it should be noted, could not have been carried out using live television. It would have been impractical if not impossible to schedule studio time, to absorb increased equipment maintenance costs, or to assign sufficient engineering and production personnel. Done live, the project could well have consumed the entire resources of the radio-TV department. Kinescope might have been used, but the quality of reproduction would have been less than satisfactory; the delays imposed by film processing might become inconvenient;

and the lasting quality of film would be inferior when compared with that of tape. Clearly, videotape has greatly expanded resources in closed-circuit instruction.

Potentially, then, the plan was an excellent one. As the programs went into production, television personnel and faculty members of the Department of Germanic Languages each arrived at an understanding of the other's purposes—which resulted in a guiding philosophy for the production. The series would aim to achieve a blend of course content with television production techniques, so that ideas would be communicated with maximum effectiveness. Television would not be reduced to the level of a mere conveyance for the "tried and time-tested techniques of the classroom, nor would it be permitted to become a showcase for eye-catching "TV gimmicks," unrelated to the material to be communicated.

Each program was carefully planned by Dr. Leroy Shaw, the instructor selected to appear on the tapes, and the writer of this article, who was to direct the series. As the series progressed, the problems of visualizing linguistic principles were solved by using a variety of devices. Although some of these were particularly "spectacular" on television, the planners carefully resisted the temptation to use devices where they did not fit the content. The two questions that were invariably asked were: "Is it good teaching?" and "Is it good television?" If the answer to the first question was "no" the device was immediately rejected.

But both instructor and director found that more often the answer was "yes" to both questions. Some of the production techniques which proved most successful developed quite naturally out of the fabric of the course. As part of each lesson, in the text, there is a dialogue which places grammatical principles in a conversational context. These are dramatized in the television presentation of German 406; the actors are native Germans, the sets simple but suggestive of the location of the action. Presented twice, once at the beginning of each program and once at the end, the dramatizations enable the student to hear the language as it is spoken in Germany; principles of syntax and pronunciation are seen in use.

During the body of each lesson, the instructor occasionally refers back to the dramatized conversation. Here, a video and audio flashback is used; the student sees in a black area of the main set a close-up of the German-speaking actor as he forms the sounds of the phrase or sentence in question, and underneath the face of the actor the phrase appears in print.

German, as Dr. Shaw explains in the first tape of the series, is an inflectional language. Nouns, adjectives, and pronouns have endings for gender, number, and case; verbs, endings for person and tense. Here is another opportunity

to use television at its best; the changes in nouns and verbs are shown by means of a strip chart. The parts of the word that do not change—the verb stem, the base of the noun, etc.—are shown on overlays; the changeable letters of the word appear on a strip and, when pulled into position, show up in a "window" cut in the overlay.

One of the most difficult areas to teach in German is that which involves the intricacies of sentence structure; the order of elements is often different from that of English sentences. The student, sometimes lost by these intricacies in the classroom, on television sees differences rapidly and graphicly on the magnetic board. The television art department built up a "vocabulary" of words which when attached to little clip-on magnetics are easily maneuvered over a metal panel in the set. By using the magnetic board, the instructor makes his explanations of sentence structure not only easier to understand but more meaningful than a laborious blackboard demonstration in the classroom.

These three devices, with variations, provide a wealth of visual material for the series. Apart from their obvious suitability in teaching, they serve as attention-getters; not only are they good teaching; they are good television.

In the case of the *Active German* videotapes, both the representatives of teaching and of television are convinced they've done a good job of communicating. The final test for the tapes, of course, lies ahead with many semesters of use. Effectiveness must be measured in the same way it is for any system of communication: Was the audience influenced by the transmitted information? In this case, did they learn the material presented in the course? Did they learn it better than they did under the old general session? Confidence that the results of the tests ahead will be affirmative is implied in the decision of the German department to expand the use of closed-circuit television into the second semester of the beginning German course.

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annotated by Eleanor Blum

Journalism Librarian, University of Illinois

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NAEB Research Fact Sheets

Series I: The Effectiveness of Television as a Teaching Tool

73. An Evaluation of the Experimentation in Classroom Instruction Via Television

By Daniel Tanner, San Francisco State College, a speech for the National Conference of the American Association for the Advancement of Science, December, 1958.

Some of the experiments in the field of educating by TV are reviewed here. First, the author considers the work of the Fund for the Advancement of Education, which he says has been the prime mover behind this experimentation.

Concerned primarily because of the teacher shortage, the Fund sponsored some 43 projects involving more than 100,000 students across the nation. Early results of these experiments were promising, since in many cases the TV groups made the same or higher scores on tests than did the conventional classroom groups used as controls.

The author mentions that other experiments have also found that TV students do as well or better than their fellow students. However, he points out that not all the findings are favorable to television. A study involving 1,351 fifth-grade youngsters in the Pittsburgh Public Schools during 1955-56 pointed to the superiority of conventional classes. The study was to determine the effectiveness of day-to-day teaching of reading and arithmetic. TV was criticized for lacking flexibility with regard to individual differences; TV lessons were geared to the middle I. Q. groups; TV presentations were often untimely. This study expressed doubt that TV teaching would be good without supplementary instruction via conventional methods.

Difficulty in measuring the intangibles of learning — such as reflective thinking, creativity, changes in attitude and behavior, drive

for continued learning — is pointed out by the author. Knowledge of subject matter, as measured by paper-and-pencil tests, has been about the only method used to date to measure TV teaching. The author says that even these tests do not always give completely accurate results because of factors difficult to control in testing—such as the psychological advantages resulting from knowledge of one's membership in an experimental group, or the novelty effect of TV when it is tested only on a short-duration basis.

Only preliminary reports of a study conducted by Miami University in Ohio were available to the author, but they seemed to show that during the second semester of full-year courses, performances in the TV section fall below those in the conventional classrooms. The author says that experiments with classroom television at Miami University, Pennsylvania State University, Purdue, San Francisco State College, and elsewhere, point to an overwhelming preference for conventional classes. The complaints against TV seemed largely to stem from lack of direct contact with the instructor. On-the-spot questions cannot be dealt with. Telecourse teachers felt that their assignments were more taxing and less rewarding than in conventional classroom teaching.

The author's conclusions and recommendations are:

1. The TV group in a study has a novelty stimulus that the control group does not have. Recommendation: that the experimental groups be exposed to television conditions on a sustained and intensified basis.

2. Subject-matter achievement and information tests cannot by themselves adequately measure actual differences. Recommendation: that comparisons be made in such things as critical thinking, creativity, changes in attitude and behavior, and drive for continued learning.

3. There is a need for more precise control of variable factors in research on TV learning vs. conventional learning.

4. Attitudes of both students and instructors show an overwhelming preference for the conventional learning situation. Reasons against TV seem to be lack of direct contact and absence of on-the-spot reaction and discussion; impossibility of pacing presentation according to student individuality and readiness; impossibility of determining need for repetition, enrichment or acceleration.

5. With the exception of special instances where large enrollment courses are offered, the cost of purchase, installation, operation, maintenance, repair and replacement of TV equipment would appear to nullify any economy gains in replacing regular classroom teachers.

6. The greatest promise of television as a medium of instruction in the classroom lies in its use for supplementation and enrichment of conventional practices.

NAEB Research Fact Sheets

Series VI: Impact

14. Crime and Violence on Television

The Canadian Broadcasting Corporation
By Ray Whalen. June 1959. 27 pages.

This is a digest and bibliography of opinions and research studies that have been published in English, on the subject of possible effects of such programing on the minds of children. While the publishers do not claim that this report is all-inclusive, they do believe that major studies are covered, as well as a cross-section of significant opinions on the subject.

The first part of the report is devoted to where and how much crime and violence (as defined in *Webster's New World Dictionary)* is displayed on the three U. S. networks and the Canadian CBC. Shows with occasional themes of crime and violence were not included—just those with recurring themes along those lines.

A comparison of programs for the second half of the 1958-59 season gave these results: NBC and ABC each devoted 9½ hours a week to programs with such content, CBS 6½ hours a week, and CBC 5½ hours. The report points out that American networks begin broadcast operations earlier in the day than CBC, and that actually the 5½ hours is a greater percentage of broadcast time than for each of the American networks.

Secondly, the report considered the question: Are crime and violence on TV really harmful, especially to the youth? Representative opinions are given on the three schools of thought: yes, no, and maybe.

These pro and con statements were based on opinions rather than on research projects. After discussion of that sort, the question still remains: Are crime and violence programs a cause of juvenile delinquency? Lastly, the report summarizes opinions and studies on this question.

Arguments are mentioned that are heard in the United States. One

is that law enforcement officers have cited instances where actual crimes closely paralleled those that appeared on TV shortly before. Another is the rise of juvenile delinquency over the past 10 years. Also the claim has been advanced that juvenile crime has become more violent in nature.

The report notes that if TV violence and juvenile delinquency are related as cause and effect, then there should be a similar situation in Canada. In fact, though, juvenile delinquency is *not* on the rise in Canada. During the peak year of 1942, there were 606 juvenile crimes per 100,000 juveniles in Canada. Between 1947 and 1956, the figures fluctuated between 392 and 259 per 100,000.

Digests of three research studies on the subject complete the report. Used are *Why Do Children Watch Television,* by Dr. Eleanor Maccoby, Cambridge, Mass., 1950-51; *The San Francisco Study of Children and Mass Communication,* by the Stanford Institute for Communication Research, 1958; and *Television and the Child,* by Dr. Hilde Himmelweit, sponsored by the Nuffield Foundation in England, 1958. (A review of the latter was published in the April, 1959, *NAEB Journal* as Fact Sheet No. 12 in Series VI.)

Summing up, the report reaches these conclusions:

1. The opinions as to whether or not TV crime and violence are harmful run the gamut—yes, no, sometimes, and it is impossible to say.

2. The impact of such programming cannot be measured as a cause of juvenile delinquency because of the many other influences at work.

3. There is not enough solid research on the question at this stage of the game to make any sweeping conclusions. The Nuffield study, best in quality and scope to date, seems to say, along with others, that when violence is not associated with real life as the child knows it, then it is not harmful—but for the maladjusted child it could well be a detrimental influence. It should be noted at the same time that any media could have a harmful effect on a maladjusted child already predisposed to delinquency, or even on an adjusted child. A few years ago Dr. F. Wertham made what he considered a pretty solid case against crime comics. Mass media—TV, movies, radio, or whatever—act as a trigger to fire a gun that is already loaded. The media do not necessarily supply the ammunition.

4. Westerns are overplayed as to their harmfulness in recent articles. Actually they depict a world not known to the child. They are in much the same category as the fairy tale "never never land." Plots are not only stereotyped but, with few exceptions, distinctions between good and evil are made extremely clear.

5. Probably most harmful are those shows which duplicate life as the child knows it but introduce scary, frightening, violent items as an integral part of these surroundings.

NAEB Research Fact Sheets

Series I: The Effectiveness of Television as a Teaching Tool

74. An Experimental Study of the Relative Effectiveness of Television Presentational Techniques and Conventional Classroom Procedures in Promoting Initial Comprehension of Basic Verb Form Concepts in Elementary Spanish

By E. Wayne Bundy. University of Detroit, August, 1959. 301 pages. (Project conducted with the aid of a grant from the National Educational Television and Radio Center.)

This project was undertaken because there had been very little research previously done in the field of foreign language instruction via television and because the instructor subjectively judged that Spanish verb forms would be more effectively taught via television than in the classroom.

Before getting into the actual study, the author presents background on the television program at the University of Detroit. The University inaugurated its TV College during the first semester of the 1957-58 academic year. The entire freshman arts college curriculum was offered for full credit over broadcast television. Enrollees were required to attend one session per week on campus where group classroom functions could be carried on.

It was recognized at that time that no immediate need for telecourses then existed, in spite of immediate benefit to at-home registrants. However, it was con-

sidered essential that a backlog of experience and know-how to meet future needs be built up under actual operational conditions.

In presenting the telecourses, the television staff was accepted as expert in its field, just as the instructors concerned were in their own areas. Joint conferences were set up involving all prospective TV College instructors and producer/directors. Out of these came the following policy approaches:

1. Teaching by television is not the same thing as classroom teaching, and classroom presentation before a camera is not enough.

2. With the limitations of instruction by television go also its unique and peculiar advantages, and to capitalize upon these requires the maximum use of its special abilities.

3. Such utilization requires careful joint planning by the Instructor - Producer/Director team, with the instructor having final responsibility for content and the producer/director for presentation.

4. Effective communication of course content via television requires availability and utilization of all facilities and resources of University of Detroit television.

Operationally, these concepts meant specifically that settings appropriate to the content and instructor would be used instead of the conventional curtain or drape; individual lessons would be semi-scripted, with the instructor providing run-down sheets to the producer/director a week in advance of on-the-air presentation; the producer/director would order graphics and photos and arrange for technical and staging facilities, and make studio arrangements; talent would be in the studio before broadcast time to allow for camera rehearsal and a dry run; conventional program opens and closes of minimal length would be used as part of the format—including theme music, title cards, credits, and audio announcement.

A total of 28 live half-hours per week originated from the studios at the University of Detroit under this plan.

With specific regard to Spanish I, both problems and opportunities appeared to a degree unparalleled by the other telecourses.

In this case, the instructor was chosen not only because of an important background of training and experience, but—vital to his success as a TV teacher—also because of his communicative ability, receptiveness to new and different techniques, and his willingness to accept fully the instructor-producer/director team concept.

The instructor was convinced himself that verb formation could be presented more concisely, more effectively, and more convincingly on TV. It was difficult to provide meaningful visualization of these complex concepts. The production techniques used were based upon the unique ability of the medium to provide, through superimposition, simultaneous dual or sequentially multiple visual stimuli.

The author differentiates between televised instruction and instructional television. He defines the former as a manner of teaching via television without significant modification of essential details of the teaching procedure. At best, in this case, the viewers are only classroom students once removed, says the author. Instructional television, on the other hand, is said to teach by television, seeking to utilize every ability of the medium to enhance the conveying of material. One of the abilities of the medium would be super-imposition.

In surveying previous research, those in the project found it to be general in scope and out of date. They found that it had compared classroom instruction and televised instruction—not instructional television. The need for detailed, specific inquiry was nowhere greater than in foreign language areas, where there had been virtually no research. A similar need existed for experimental evaluation of the effectiveness of particular television presentational techniques. Indeed, the term superimposition was found to be conspicuous in its almost total omission from the literature.

In the Spanish I telecourse, subjective evaluation indicated that TV techniques had probably been more effective in promoting basic verb form comprehension than had conventional classroom presentation. However, it was impossible to either support or condemn the validity of the judgment from previous research. Hence, the present study came into being.

The study involved 38 students already enrolled in two Spanish I sections at the University of Detroit. The students were divided into two groups and tested for inherent differences. No significant difference was discovered between them as to age, sex, language aptitude, and performance on the final examination for the course.

Three critical basic verb form concepts were selected for experiment. One group of 19 students was initially introduced to the critical concepts through closed-circuit instructional television utilizing the presentational techniques of superimposition.

Another 19 were introduced to the same concepts by the same instructor in a conventional classroom teaching situation, utilizing conventional classroom procedures.

Statistical comparisons of various types were made using three different tests. Of 24 comparisons made, 23 indicated a consistent trend favoring television presentational techniques over conventional classroom procedures.

From the findings, the conclusion drawn was: In promoting initial comprehension of critical basic Spanish verb form concepts, television presentational techniques utilizing the unique ability of the medium to provide—through superimposition — simultaneous dual and/or sequentially multiple visual stimuli are fully as effective as — and probably more so than —conventional classroom procedures.

Editor's note

Beginning with this issue of the *Journal*, the NAEB Research Fact Sheets will be printed on colored paper to make them readily distinguishable from the body of the *Journal*. They will still be arranged so they may be easily removed from the center of the publication—and each fact sheet can be separated from the others.

NAEB Research Fact Sheets

Series VII: Administrative and Faculty Reactions to Educational Television and Radio

13. An Evaluation of the Ohio School of the Air

By Wayne M. Carle. Bureau of Educational Research and Service, Ohio State University, June 1959. 76 pages.

When this study was begun, the Ohio School of the Air was broadcasting nine weekly radio programs for classroom use in the grades. Programs offered were of the general curriculum enrichment type, rather than of direct instruction. Manuals were available for use with all of the programs except one, which was a current-events program.

This project had four objectives: to assess use and value of the broadcasts and manuals, to find out why some teachers did not use the broadcasts, to establish means for providing closer relationships with school systems and more help for teachers in using the broadcasts, and to appraise the future status of school broadcasting as a medium of instruction.

In surveying users of the programs, questionnaires were sent to the 1,077 school personnel who had requested manuals. Returns were about 50%.

Tabulation of the returns indicated that teachers apparently regarded School of the Air programs as neither exceptionally better than nor inferior to other teaching aids they used for presenting "enrichment" materials to pupils. Most teachers said they would plan to use the programs again the following year.

As to which educational objectives the programs contributed most, *informational background* was checked by 65% of the responders, followed by *attitudes and appreciations* (55%), *interests and self-motivation* (33%), and *crea-*

tive expression (26%). Less than 15% checked *social behavior and integration, critical thinking and discrimination,* and *skills and techniques.*

Over half of those responding felt a need for in-service training for teachers in the use of radio programs. Almost half would like to see the development of new program ideas from teacher suggestions, with preferences for programs in social studies, music, science, language arts, health and physical education, in that order.

Although 25% of respondents' schools had television sets available, only 8% of School of the Air users reported using TV programs also.

To find out why some teachers did not use School of the Air programs, 101 non-users were queried. Most frequent reasons given for not using the programs were lack of information (56), lack of receiving equipment (26), and poor radio reception (21). Non-users' opinions as to areas in which radio programs would be useful coincided with those of program users.

The third objective of this project — establishing closer relationships with school systems and providing more help for teachers in using the broadcasts — was tackled at a one-day conference at Ohio State University for public-school elementary supervisors.

To help teachers use the programs more effectively, these suggestions were offered: that program bulletins highlight means of over-coming reception difficulties; that supervisors receive advance bulletins and manuals, enabling them to discuss the School of the Air at fall institutes and at orientation sessions for new teachers; that children help in the decision as to whether or not a program series should be used; and that the program manuals give additional help with vocabulary development.

For the project's fourth objective — to appraise the future status of school broadcasting as a medium for instruction — experts were interviewed who were attending an institute at the University. These included three school administrators and eight school broadcasters, from the Midwest and East.

Seven interviewees felt that school radio will continue to grow, while four said that TV is forcing a re-evaluation of radio and may hurt it. Five felt that the media are not in competition with each other.

Most thought radio has advantages over television in broadcasting drama, literature, music, news, and "imaginative" programs. Among other advantages mentioned were: science experiments in which pupils listen and do rather than watch someone else do; teaching good listening; easier use of radio equipment; and certain unique strengths of simplicity (as in dramatic productions), economy, and psychological factors with regard to music.

Financial limitation was thought by most of the interviewees to be the basic consideration determining whether or not a school system uses radio, TV, neither, or both.

NAEB Research Fact Sheets

Series I: The Effectiveness of Television as a Teaching Tool

75. An Experimental Study of College Instruction Using Broadcast Television

San Francisco State College. Fall, 1958. 77 pages.

This report is the result of a second year (1957-58) of experimentation with open-circuit instructional television in general education. Courses were offered in biology, creative arts, economics, English, physical science, and psychology. Performances of students in three main groups—television at home, television on campus, and conventional on campus — were compared. Control and experimental groups were taught by the same instructors.

The objective of the first area of investigation was to compare performances of college students on various tests and measures. In *achievement,* TV students compared favorably with respect to acquisition of information or — as in English — the ability to write an essay. There were no statistically significant differences between TV and conventional groups in the area of *self-insight and critical thinking.*

Of the 19 different groups, 17 rated *course content and instructors* favorably. TV-on-campus groups had less favorable attitudes in this than the other two groups.

There were no significant differences as to *interest in subject matter* between the TV-at-home and the conventional groups, but the TV-on-campus group expressed a lesser degree of interest.

Seven of ten groups were either favorable or neutral in *attitude toward television.*

Student preference for televised instruction if assured of a superior instructor in a hypothetical

TV course ranged from a low of 64% in one group to a high of 87% in another. TV at home was preferred to TV on campus in three of four courses that had both.

As to *opinions toward television*, the students in conventional groups generally indicated they had learned more, had paid better attention, had more personal contact with instructors, and had prepared better for class.

The second area of investigation was to compare selected high school students with college students. Both groups expressed negative attitudes toward TV but the high school attitudes were significantly less negative than the college.

Area Three of the investigation was a follow-up study on students who had taken the first half of freshman English by television, and who were enrolled in conventional classes for the second half. Students were anonymously queried concerning their feelings toward the two modes of instruction. Eighty per cent of the students preferred conventional English instruction because it allowed greater learning, it was more interesting and enjoyable, it provided more individual attention and personal contact with the instructor, and it furnished more highly significant content.

The fourth area of the present study explored attitudes toward the teaching-learning process. Analysis of teacher and student statements describing instruction revealed that students reacted negatively to the teacher's behavior more often in conventional instruction than in televised instruction. Students placed more importance on what the teacher did in TV instruction than in the conventional classroom and gave more value to student participation in conventional instruction than in televised instruction. Televised instruction was perceived as allowing fewer kinds of satisfactions and dissatisfactions than did conventional instruction.

The fifth and last area explored problems in administration, production, and cost of open-circuit instructional TV. It was concluded that instructional television is best placed within the administrative organization of the instructional area of the college. It was demonstrated that instructors can maintain control over the academic quality and content of televised courses and, in cooperation with a regular faculty producer/director, can offer quality-produced live TV courses.

Study of cost data based on experimental, quality-produced open-circuit TV, allowed these statements: It is economically feasible to offer lecture-discussion courses by TV if enrollments of 950 students are attainable. More expensive courses become feasible when a minimum of 1,440 students are available. The cost of televised instruction, after initial costs have been met, may be reduced for subsequent semesters and break-even points may be lowered.

High School of the Air

Radio WNYE, New York, offers complete course of study

By **Lola Dolgen**

Secretary, High School of the Air for Home Instruction, New York. She has been with the High School almost since its inception in 1949.

The WNYE High School of the Air for Home Instruction celebrated its tenth birthday in the spring of 1959. For ten years this radio school has been broadcasting daily, sequential lessons in English, science, biology, world and American history to high school pupils on home instruction. It is probably a universal satisfaction to check off the mileposts of the years; it gives some meaning to the past and—through its experience—new directions to the future.

This somewhat mythical high school was inaugurated for the benefit of students who could not attend regular school because of illness or physical disability. Medical science has broken through the barrier of darkness on many fronts through the decades. The most recent victory has been over the scourge of polio through the Salk vaccine. But like the housewife's complaint, the work of science is never done. There are illnesses that plague our children —illnesses such as muscular dystrophy, hemophilia, leukemia — for which there is to date no known specific. There are a host of others that respond more or less to long and determined therapy. Prominent among these is cerebral palsy. Then there are the malformations and other serious handicaps, and always the fractures and the accidents.

Approximately 550 high school students in New York City are studying at home because of illness or disability of varying duration.

Between home teachers and radio teachers, homebound high school students of New York City receive a well-rounded education.

These students have home teachers who visit them for an hour and a half twice a week to teach all regular high school subjects. If students show interest or ability in art, arts and crafts, dressmaking, languages, or commercial subjects, teachers who specialize in these branches come to their homes. The home teachers plus the radio teachers make a composite picture of education for handicapped high school pupils.

Radio "classes" are attended in their own homes by boys and girls on home instruction. Standards and teaching objectives of the radio courses are on a par with those of regular high schools. Because of the time limit of fifteen minutes for each radio session, the lessons are necessarily more compact and

tightly woven. Thirty such sessions per week at various levels are devoted to radio instruction in three subject areas.

This is still a unique school. . . still the only one in the country giving complete, planned high school courses and preparing students for state-wide examinations where they are required. Furthermore, it knows no district boundaries; while designed for pupils affiliated with any New York City high school, its courses are open to anyone who has an FM set within approximately seventy-five miles of the city.

WNYE, over which the High School of the Air broadcasts, is located in the Brooklyn Technical High School building. Each radio class consists of the teacher and four boys from Brooklyn Tech. This gives the pupils at home a sense of participation in classroom work. They know the boys by name, by voice, and—with continued listening—by personality. . . they are classmates. They are free to correspond with their radio classmates and often do.

In connection with the daily broadcasting of lessons, the High School of the Air mails out every six weeks to each student on home instruction sets of assignment sheets in the radio subjects. They are detailed, daily lesson plans outlining the radio curriculum. They begin with a letter from the teacher on the unit of work to be covered, and include textbook page references, questions to be pursued; maps, charts, diagrams in science and social studies; and bibliographies. . .quite a formidable study plan, the stapled sets ranging from seven to eleven pages of printed material. This material is usually kept in a notebook for reference and review. Administration of the radio school requires keeping track of the constantly changing register of high school homebound pupils so that they may receive current assignment sheets. The textbooks used are of necessity uniform.

Home visiting and home recordings are an integral part of the activities of the High School of the Air. Tape recordings are made in the homes of nonambulatory pupils, to be broadcast at a later date. Arrangements are often made for two or three other home instruction students to convene at the home where the recording is made, thus creating a home radio class. Home visiting by the High School of the Air staff is an opportunity for leisurely, personal communication, an opportunity for "getting to know you," perhaps to discuss college and plans for the future.

FM radios are furnished by the Board of Education to students on home instruction who do not have them. When the High School of the Air was inaugurated, 350 FM radios were donated by the National Foundation for Infantile Paralysis, the American Junior Red Cross, and certain public-spirited citizens. Since then, the number of radios has been increased periodically by the Board of Education. Typewriters are also loaned to home students taking

commercial subjects and to those for whom typing has been advised as a therapeutic measure.

High school students on home instruction have their own magazine, *Chatterbox,* which has evolved from the printing of a few compositions to a varied, literary magazine of some twenty pages of stories, essays, poems, and short subjects. *Chatterbox* has twice won first-place award in the Columbia Ssholastic Press Association point rating system for school publications. The editor of "The Roving Reporter" column asks questions of general teen-age interest, and "roves" by mail or telephone for his contributors. The editor of "The Magazine Stand" encourages the reading of articles in commercial magazines by soliciting students' comments on outside reading. Items excerpted from general circulars to all high schools that may be of interest to students on home instruction are printed in *Chatterbox.*

The parents of a homebound child who died several years ago have established a semi-annual award of a $25 U. S. Government bond for the best creative writing printed in *Chatterbox.*

The staff of the High School of the Air keeps abreast of the activities of special organizations for handicapped children. Demonstrations and experiments in science are at times shown at these organization meetings by a science teacher on the staff. The radio teachers also participate in graduation exercises or group social activities conducted by organizations devoted to the homebound.

An additional mailing list is maintained by the radio school for its study guides and other printed material. Teachers or department heads from other schools, hospital schools, and sometimes adults at home receive this material on request.

Letters from students showing appreciation of radio lessons come in quite frequently. Laura—a pretty, vivacious young lady of fifteen, in spite of her affliction of cerebral palsy—finds the radio broadcasts "go all too quickly. The lessons are not only educational, but enjoyable, too."

A boy who has returned to regular school after a year on home instruction writes: "I want you to know how much good the radio lessons have done me, and how happy I am that because of them, I can now keep up with my school work."

Every attempt is made—through standing invitations to visit the radio studio and participate in a broadcast, through home recordings, visits, personal correspondence and telephone conversations—to compensate in some small measure for the essential loneliness of the lives of students at home because of illness or disability. The High School of the Air is their school, the radio classes their classrooms. . .and the personal informal relations between the radio teachers and the students on home instruction help to generate a fine sense of belonging.

A SALUTE TO OUR INDUSTRIAL ASSOCIATES*

Motorola, Inc.

Radio Corporation Of America

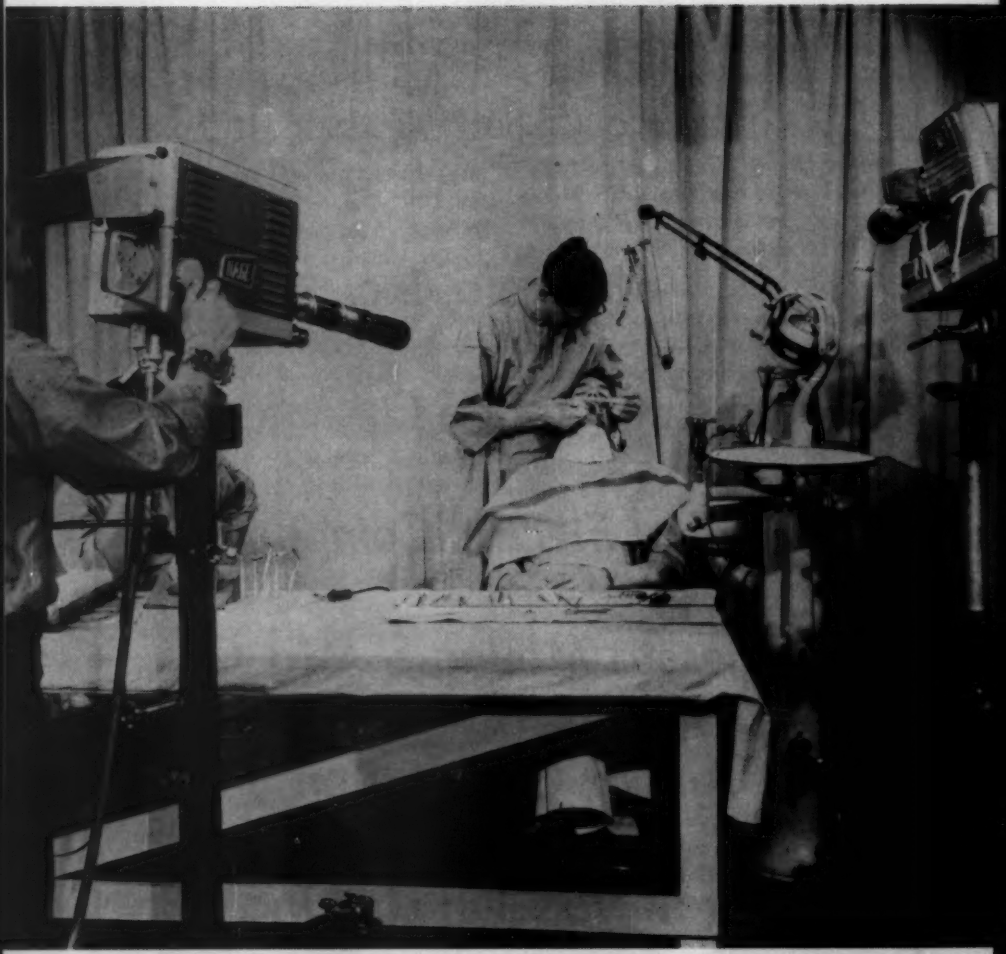
General Electric Company

Minnesota Mining & Mfg. Co.

Ampex Corporation

General Precision Lab. Inc.

* "Any manufacturing firm, engaged in the manufacture and/or sale of broadcasting and auxiliary equipment, wishing to further their cooperation with the NAEB and wishing to foster educational broadcasting through the NAEB may be elected an INDUSTRIAL ASSOCIATE." NAEB Constitution.



By means of the 12-inch lens, Naval Dental School students can see the actual work of the dentist as he performs restoration on the patient.

The Medical Profession Needs ETV

Medics use medium to communicate with each other and with the public

Not so long ago it was common that a major medical breakthrough was experienced only once in every generation. In our current society, major advances are being made at the rate of one almost every six months. Each breakthrough releases a mass of information that is vital and must be communicated to all practicing physicians, be they in major medical centers or Podunk. There was a day when the average physician could keep up with current developments by attending an occasional medical meeting and taking a post-graduate course every once in a long while. This is no longer the case. As the mass of information to be communicated grows, the problems of communicating it compound to astronomical proportions.

As new communication techniques and mediums develop, they are investigated and utilized by the medical profession to help solve

By **Frederic D. Butcher, Jr.**

A speech for the National Forum on Educational TV, Washington, D. C., April, 1959. Mr. Butcher is Program Director for the TV Project at the National Naval Medical Center, Bethesda, Maryland. He is in charge of production and programing on the Project's CCTV system.

training and information problems. Print media, radio, films, tape recordings, and now open and closed circuit television, are all being used, and in some cases very effectively.

But the progress is only superficial.

The medical profession also has the responsibility of communicating health information to the general public. Most clinical advances have their companion preventive medicine aspects which must be brought to the attention of the general public. A typical current problem is the use of polio vaccine. Although the vaccine has been readily available for several years, a great majority of people have not availed themselves of it, because they lack understanding of what the vaccine's protection means to them.

Early in the advent of television, the Bureau of Health Education of the American Medical Association recognized the value of the medium in informing the public. The bureau has experimented extensively with local programing and taken advantage of every opportunity to utilize network facilities. It has also provided films, scripts, and other materials to aid local societies with television programs in their own communities.

In the early 1950's, the first continuous network series of medical television programs was made possible by the National Broadcasting Company. The demonstration series, "Here's to Your Health," was presented in cooperation with the New York County Medical Society. Later, the pharmaceutical firm of Smith, Kline and French began a sponsored series over the same network—"The March of Medicine."

Other network programs have been dedicated to medical information, notably "Medical Horizons," sponsored by Ciba Pharmaceuticals, and the dramatic series, "Medic," which is currently being syndicated throughout the country. Nationwide network telecasting has mainly concerned itself with the more spectacular aspects of medical information. The job of presenting the more routine, and probably the more important, information to the public falls to the state and local medical societies. More than fifty of these community groups have been, or are now, engaged in the production of their own series.

In Ohio, the Cleveland Academy of Medicine and the Cleveland Health Museum cooperated in a regular half-hour series produced for them by television professionals and aired over a seven-station regional network. WTMJ-TV in Milwaukee invites the Milwaukee County Medical Society to participate in the award-winning daily program "Woman's World," giving the society air time and facilities once a week.

All of the existing educational television stations have cooperated

in the past, and are now cooperating with their local medical societies in the presentation of meaningful health-education programs. An excellent example is the series being presented for school children through the facilities of educational TV station, KETC, in St. Louis.

The production of educational programs, whether on a commercial station or on an educational station, always has two limiting factors . . . funds and production materials. To bridge this lack, the most frequently called-upon source is motion picture footage, both complete films and clips to use in conjunction with live presentations. Such materials are now available from various pharmaceutical houses, medical societies, universities, and governmental agencies.

The power of television as a teaching device for the technical education of physicians and dentists has been proved repeatedly by specialized closed-circuit demonstrations and limited open-circuit broadcasts. In no area of education is experience through visualization more important than in medicine and dentistry. Perhaps in no other area has observation been so closely related to accomplishment. Those engaged in medical education fully realize the tremendous difficulty in always providing students with direct visual experiences of disease processes and clinical techniques. Television, with supplemental motion picture film, can immeasurably assist the job of providing these needed visual experiences.

The development and expansion of educational television will offer the medical profession the opportunity to reach the greatest number of its own with the least time lag. The next time the nation is on the verge of an epidemic, such as Asian influenza, there will be no need to wait upon the time lag of publication and distribution of print media to get essential information about clinical management of the disease to the physician. The Dr. Hilleman of the future will not present his discussion of the disease and his controlling vaccine to a relative handful of his colleagues via closed-circuit television. By film, kinescope, or possibly network, he will be able to address all of the profession throughout the country at one time or over a short period of time.

During the same period, public health officials will be presenting to the public information that will be so necessary for each of us to protect ourselves. In this nuclear age there is much we need to know to survive. The management of mass casualties in a future war is a matter of concern to all of us, and it is the responsibility of the medical profession to see that the public is informed about steps to be taken in the event of attack. The mass communication abilities of television offer one of the best mediums of information now available to do this job.

Medicine has made great strides in the use of the television medium. But communication needs continue to grow and make great-

er demands. Progress to date is only a beginning. The use of scrambled signal and multiplex programing to protect public sensibilities during clinical training programs has yet to be investigated and given a trial. Commercial broadcasting stations are limited in their ability to support and participate in research programs to find how best medicine can use the medium. Therefore, the medical profession must enlist the aid of the educational telecasting interests to help with the present and future communication problems. At the same time, these same medical interests must be willing to lend their assistance to educational telecasters so as to insure the growth and prosperity of the educational television systems throughout the country.

The medical profession doesn't just *want* to use educational television facilities.

IT MUST USE THEM.

A cameraman from the Television Project, National Naval Medical Center, focuses on a section of skin to be used in a skin graft. This operation was one of three displayed simultaneously at a TV workshop in June.

A Review

"The Role and Functions of Television in the French Educational System," by Henri Dieuzeide. *Cahiers d'Etudes de Radio-Television.* December, 1958. Pages 339-355.

Perhaps one of the reasons why I feel that this article is important is traceable to my concern lest television be seen in American education only as a palliative for cost problems, teacher shortages, shortages of space, and a substitute for other materials, whereas I see it as an instrument which will make possible educational improvement on such a scale that it may meet needs that have barely been touched or analyzed in the past in American education.

The author points out that his hypothesis is that the introduction into daily life—through television—of the image, of the imagination, of the symbol, marks—in our culture—a whole shift in the center of gravity of the human spirit. He points out that seeing is an uneasy sense which is rarely satisfied. More than the spoken word, which is available in radio and books, the image invites first to imitation and then to research or investigation. It is well known the extent to which television—once it comes—raises questions, engenders new appetites, awakens new curiosities.

Television, according to Mr. Dieuzeide, needs to seek its place in this future equilibrium between the book and the picture, and he does not see teaching as able to think of itself outside of television. In spite of itself, teaching had tc absorb the book. It will be necessary for it also to absorb and integrate television.

Eighty years ago in primary education the textbooks we now have did not exist. Neither did blackboards. Most of the schools had as materials the most rudimentary type of manuscripts and catechisms at which children laboriously worked deciphering and transcribing. In old prints and engravings children are shown with little heads. Up until the end of the nineteenth century, the child was considered pretty much as a miniature man. We now know that

there are differences, and that the child has to be approached in a distinctive fashion.

Through the ages the educational relationship between teacher and student has been progressively relaxed and loosened. In the days of Socrates or even of Rousseau, this relationship was extremely personal and extremely close. It is material progress — bringing with it the book, the blackboard, and other materials—which has led to the widening gap in the relation between teacher and student. Television does not create that; it simply increases it.

Increasingly, the teacher appears less as the origin of all knowledge or the fountain of all wisdom than as the arbiter of activities. Paradoxically, it is thanks to the machine that he is able to increase his personal influence upon the child, in an age of technological civilization. Television has become available to the teacher in order to help him meet the constantly increasing needs which this type of civilization imposes upon education.

The author states that television has been seen as an instrument of resolving immediately many complex and varied problems which plague the educational system today. Television is used in economic and industrial education and in technological schools, for apprenticeship and on-the-job training of the factory, as a palliative for the desertion of physics teachers from the teaching profession into industries, to help meet the shortage and poor quality of scientific material in the small schools, to renew and vivify the teaching of history at the primary level, to initiate small-school students into the scientific realities of today, and for many other things. Many of these factors seem to be pretty much the same as those in the United States.

The author calls on us to think of television "not only as a palliative but also as a creative element destined to take its place, in a permanent way, in the educational system.

"France is, in effect, the only country in the world where ministerial directives, reviewed several times and reissued since 1953, invite and urge teachers to use television in their classes and to integrate into their school instruction broadcasts which are especially prepared for them."

At the outset television was seen as a means of distributing raw materials to the schools. It was merely a new system of distribution. The author believes that this conception for a long time delayed —and still in many countries delays—the development of television toward the true service of education in those unique ways in which it may contribute.

In France, in October, all five or six thousand primary schools are studying the ancestors of the French, the Gauls. Before television all five or six thousand of

these schools needed projectors to show the films which were developed in order to enrich this unit of education. The same situation prevailed in the spring when the germination of plants was being studied, etc. There is no question that television *does* simplify distribution of this type of seasonal document. But it will never be well used if it is condemned to being only a substitute for films or other tools of education.

As one of the first unique qualities of television instruction, the author sees the possible reintegration of ideas of instantaneousness and of actuality. The television screen is the equivalent of that blank page which is found at the end of many books and notebooks on which the child is invited to take notes in order to bring his material up to date and to enrich it.

From the age of about eight on, the child is seeking to find classifications; he is seeking to set up a system of the world, a scale of values. "Television at all scholastic levels should seek to establish a bit of order in the confusion of the world which surrounds the child." This—helping the child to see clearly in a confusing environment—can be one of its greatest contributions.

But, of course, television also opens up new possibilities of optical exploration which never existed before. The tele-microscope, the electron-microscope, the endoscope, are possibilities which truly did not exist before television. Television thus enlarges the field of observation and scientific investigation which until now was limited to so few people and students that it was not really adequately treated or covered. With its dramatic powers and even its rhythm, television helps create a coherent universe where only confusion or strange names had existed before. It enlarges not only the field of materials available for education but also the availability of professors to the entire nation.

But the author does not see these factors justifying television as an educational instrument. More importantly he feels that it offers education the possibility of using and developing a whole new language. In its ability to dramatize it has great value for the discovery of emotions and understanding of a type which never existed before. "It seems to me that television is able to develop access to and understanding of other values: the powers of induction, criticism and analysis, the spirit of invention, understanding of the specific. And I believe that television as a spectacle (and even as drama) can play an essential role in the apprenticeship of life, which is the objective of the school."

"Television permits the teacher and education to reintroduce dramatic values into the field of knowledge and acquaintanceship and into the pursuit of knowledge. It is able to bring to classes a new emotional climate." As an example,

the author cites a broadcast (from "The Origins of Man" for children from twelve to fourteen years old) in which television succeeded, as no previous instruments had, in suggesting and arousing in the children an understanding of the life of terror and exaltation which was led by early men and of their struggles in the slow march toward civilization. He uses examples of dramatizations of the daily life of Athens which make ancient history more palatable and more understandable. He cites programs which trace the evolution of French thought in the eighteenth century—and in many cases, without a single word being spoken, create the climate of this century and the ideas and hopes then current. Two minutes, in many cases, sufficed to give the young telespectator the feeling of the age. Television has a unique ability to make moral problems, economic problems, and artistic concepts specific. He tells how, in order to give the children a picture of their France, the people preparing the series had intended at the beginning to do a "Tour de France" for children. At first, they intended to base this quite largely on a book by William Magnin, published in 1877. They soon gave up. They found that this book was not modernizable without betraying historical veracity in the present day.

Another problem which came up was that of the problem of identification in the school atmosphere. For some it appeared that putting children on the screen served as an obstacle which aroused antagonism on the part of the young viewer. For others, on the contrary, the child actor permitted the child spectator to understand history better and to live and relive effectively the images which were presented to him. In general, in the French series, as will be seen later, it was found best to avoid the use of a school atmosphere or anything that looked like a recreation of class environment.

But returning to his historical reconstruction for primary education, television was found to have unique qualities in dramatizing and reconstructing decisive events in history—as well as daily-life scenes which synthesized a moment of that civilization. One of the things which television has done is to prove the need for new types of research and to provide new incentives for research. A shot in the arm is being given education in the efforts necessary to conserve the spirit of the age portrayed in history, and in taking care that the slightest detail is accurate.

Quoting letters from various teachers, Mr. Dieuzeide shows how television is able to put rural children at grips with historical questions—questions which in slightly earlier days in education were as distant and as un-understandable as finance and psychological problems of the monarchy.

He points out that in these respects television is far different from the imagination-arousing qualities of radio with its soft tints and suggestions. In television we have an instrument which lends

itself to realism and truth and specifics. It can bring to education pictures and images which are still steaming hot and vividly alive.

As to contemporary reality, television contact is infinitely closer than movie contact. In most cases the child is likely to dismiss things portrayed as reality in movies with "That's only a movie." Television by its very nature abolishes all barrier or distance between the object presented and the perceptive judgment brought to bear on it. The child viewer believes intensely in the reality of something presented over television. (This, of course, is one of the great dangers of the medium as it is being used in certain commercial contexts, a problem which is a source of concern to many critics in this country.)

Mr. Dieuzeide says that a climate of confidence is developed between the child and the people shown on the TV screen. "For the first time the problems of the outside world take on human images and visages. The magic walls of the classroom fall; the child is placed in immediate contact—if not in direct contact—with the effort and suffering of men, with the grandeur of work, with national problems of importance placed in human perspective." Supplementing Eurovision, which enables people to see broadcasts from all over Europe, he sees great possibilities for Francovision, which will enable French children for the first time really to understand their own nation. It seems to me that there are great possibilities for this sort of thing in American educational television as well.

He points out that in all cases those responsible for French telecasts have sought to bring to the class images which stimulate the imagination and the spirit of the child, images which throw him into activities of both expression and observation. He points out that television equalizes opportunities for education in the very unequal locations around France, many of which have suffered greatly because of the small number of teachers, the small number of students, or their remote area. "All children need to know better and more. They have that right."

"Yes, television (more than any other medium) effectively democratizes education, by putting the same facilities and advantages at the disposition of all: museums, laboratories, theaters, films, specialist artists." In our present-day civilization it is very difficult to keep up with scientific and other developments. "Television permits education to integrate into its progress daily and without jolt or shock, the scientific and technical evolution of the world."

The author also discusses the effects of television on the teacher and his career. "By dint of repeating them many times, teachers often end up by attaching a magic value to what they have taught for years. Television breaks the circle of routine and makes them seek again for new approaches. Among the fears expressed regarding television was the fear that

it would standardize teaching formulas . . . . We conceive, on the contrary, broadcasts which suggest new attacks—or at least new questions—thrown into the class. These broadcasts are intended to serve as a source of new investigation and ferment in the school group." He quotes several teachers as having written him to say, "You have given us back the pleasure we used to have in teaching."

He points out that school television also develops a cooperative spirit between teachers. Their colleagues watch and discuss them. These broadcasts become the basis for discussion of new teaching techniques.

"We don't want our broadcasts to be re-constructions of classes. What good, in effect, does it do to show one class to a thousand other classes? Such a spectacle would be doubly false. It would be showing the teaching of the teacher as one spectacle. It would be showing children in the process of listening and reacting in a certain way in front of the teacher, which constitutes a second spectacle or show, and which distracts attention from the first."

"Finally—and this in my eyes is the most important of all — educational television prepares the future adult viewer. School television evaluates television and elevates its value in the eyes of the child and in the eyes of the adolescent by revealing to him the possibilities of television as an instrument of improvement. The teacher initiates the child in the uses of television as he initiates him in the uses of books. In the same way that he prepares the child to choose wisely his readings, he should also teach him to decipher and judge well what he sees on television, and to understand and analyze the images and messages he receives from it.

"Looked at, studied, discussed in class, television appears as a serious medium—respectable, susceptible to playing an important role in the life of man and in the life of the citizen which he will soon be. Television in the schools can prepare men who are free and aware of their responsibilities, capable of judging and of refusing to submit or yield his freedoms."

Television in its present stage is just coming out of the experimental phase in order to become a national service. Since American educational television is doing the same, some of these considerations seem particularly appropriate at this moment. As he looks back on the accomplishments of television in education and science, the author believes that, far from contradicting or being an obstacle to the traditional concept of teaching, television seeks to improve it and to increase its effectiveness. Television is seen as one tool among others, as a supplement, a support, an auxiliary tool. Needed today is an effort to define the role of television with reference to other media like the book, the film, or the radio. Film, in the ease with which it can be repeated, permits

the study of a complex phenomenon and will be used, essentially in natural sciences and for the study of technical developments or demonstrations, whereas t e l e v i s i o n can better take over the area of general information in technology, geography, citizen education, literature, etc. In this way, television progressively becomes the "maid of all work" in traditional education.

The author points out that there is no one who denies the necessity of educationally raising the citizens' civic-responsibility l e v e l. "It's less a question today of selecting elites through more or less valid processes than of moving and elevating the whole of the nation. Television is beginning to be seriously considered as an instrument of education of a permanent nature for the whole country." The effect it will have in a complete revamping of the educational system of France is something which will have to emerge from present experience and experiments.

"It has therefore been a good thing that television at first has sought to guide traditional education toward more activity and curiosity, more actuality and humanity —that it has been called on to prove and test its ability to modernize and democratize the form and the content of teaching in such a manner as to prepare the way for the great popular university which will be capable of touching all citizens in their collectivity. . . .

"The enormous work accomplished will permit the gaining of precious time necessary for the more basic review of the definitive structure of education."

In its appeal for television to be used to do things which no other media can do—and in its appeal to experiment with television and, while using it in the class, to develop a true understanding of it in students so that as adults they may be wiser users of it—I feel this is an excellent article.

—Harry J. Skornia

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